

FIG. 1

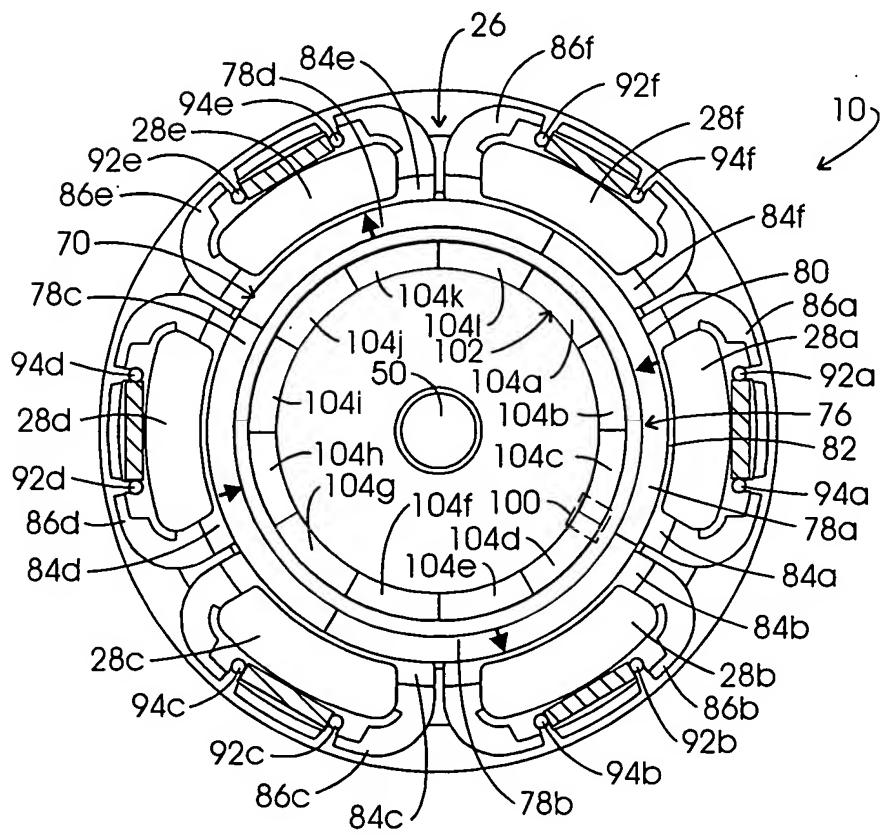


FIG. 2

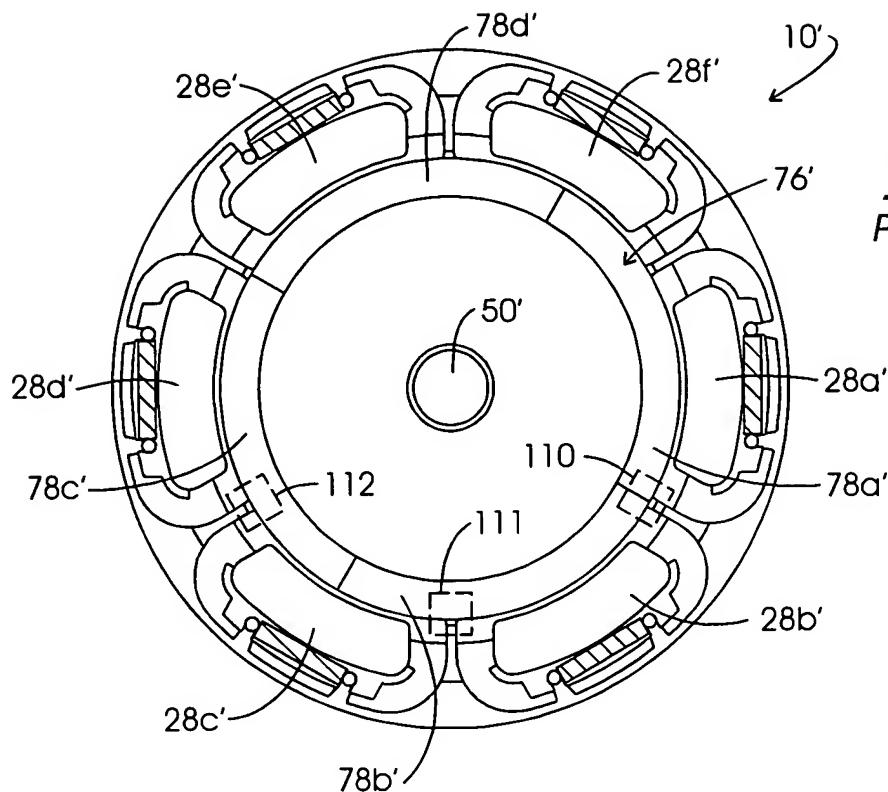


FIG. 3
PRIOR ART

	STEP					
	0	1	2	3	1	
I	Q	0	0	1	1	0
	\bar{Q}	1	1	0	0	1
II	Q	0	0	0	1	0
	\bar{Q}	1	1	1	0	1

	<u>CW</u>	
STEP	PHASE	
0	C	
1	A	
2	B	
3	C	
1	A	

	<u>CCW</u>	
STEP	PHASE	
0	C	
1	B	
2	A	
3	C	
1	B	

FIG. 11

FIG. 5

FIG. 6

	<u>CW</u>	
STEP	PHASE	
0	B	
1	A	
2	C	
3	B	
1	A	

	<u>CCW</u>	
STEP	PHASE	
0	B	
1	C	
2	A	
3	B	
1	C	

FIG. 8

FIG. 9

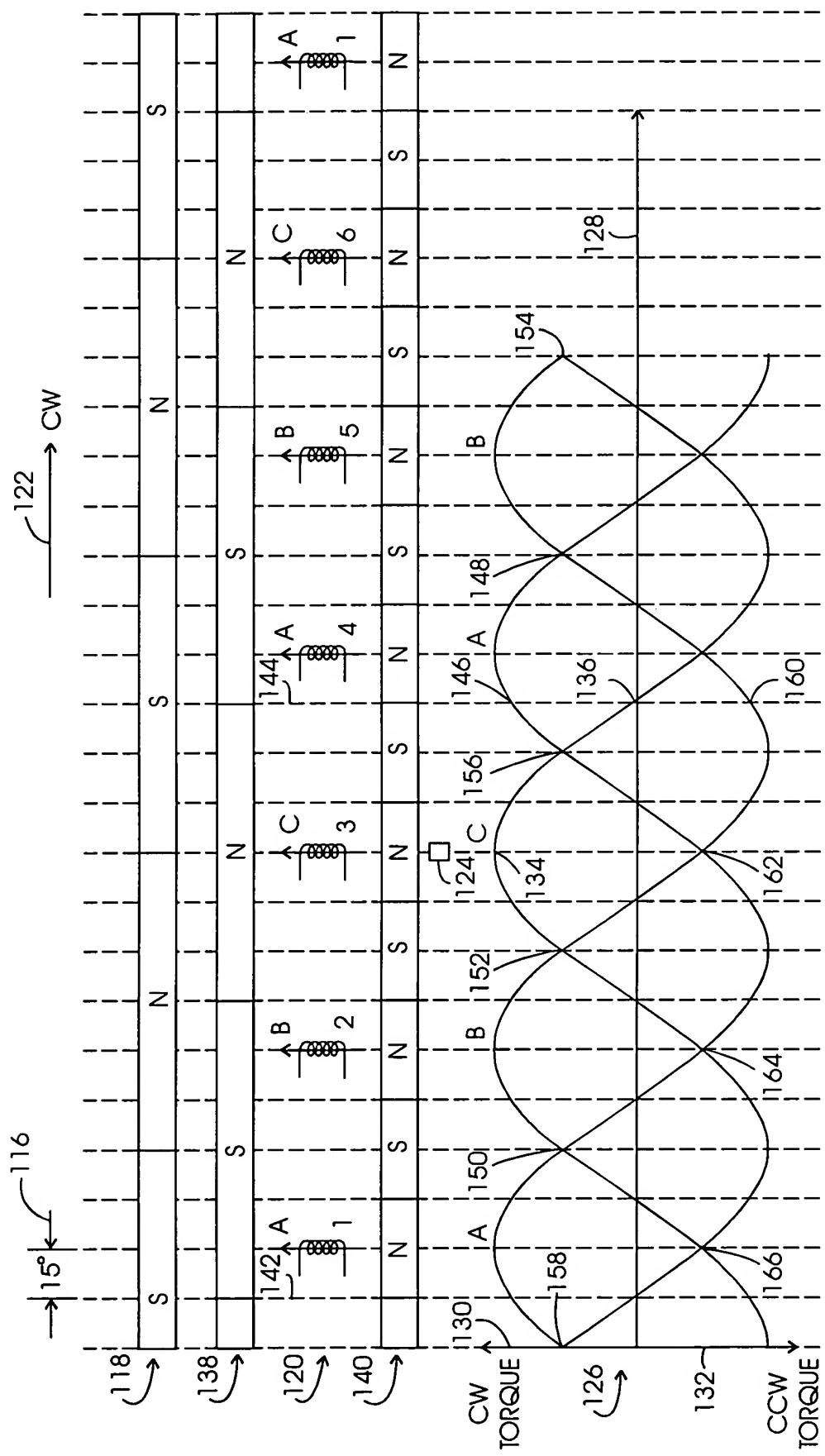


FIG. 4

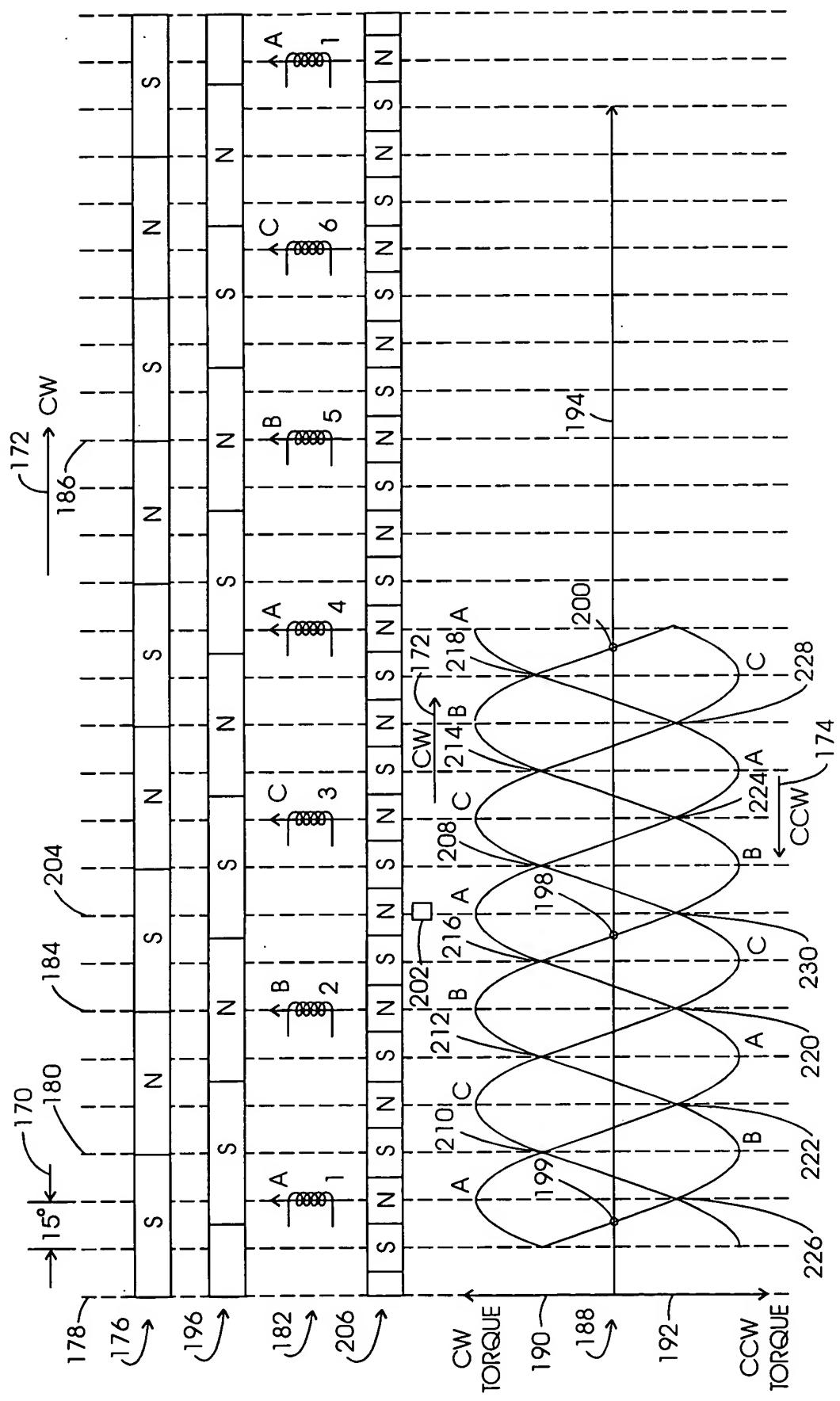
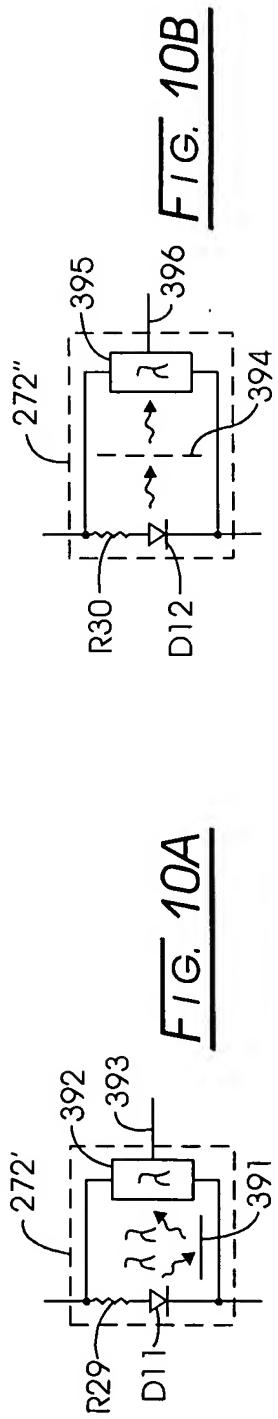
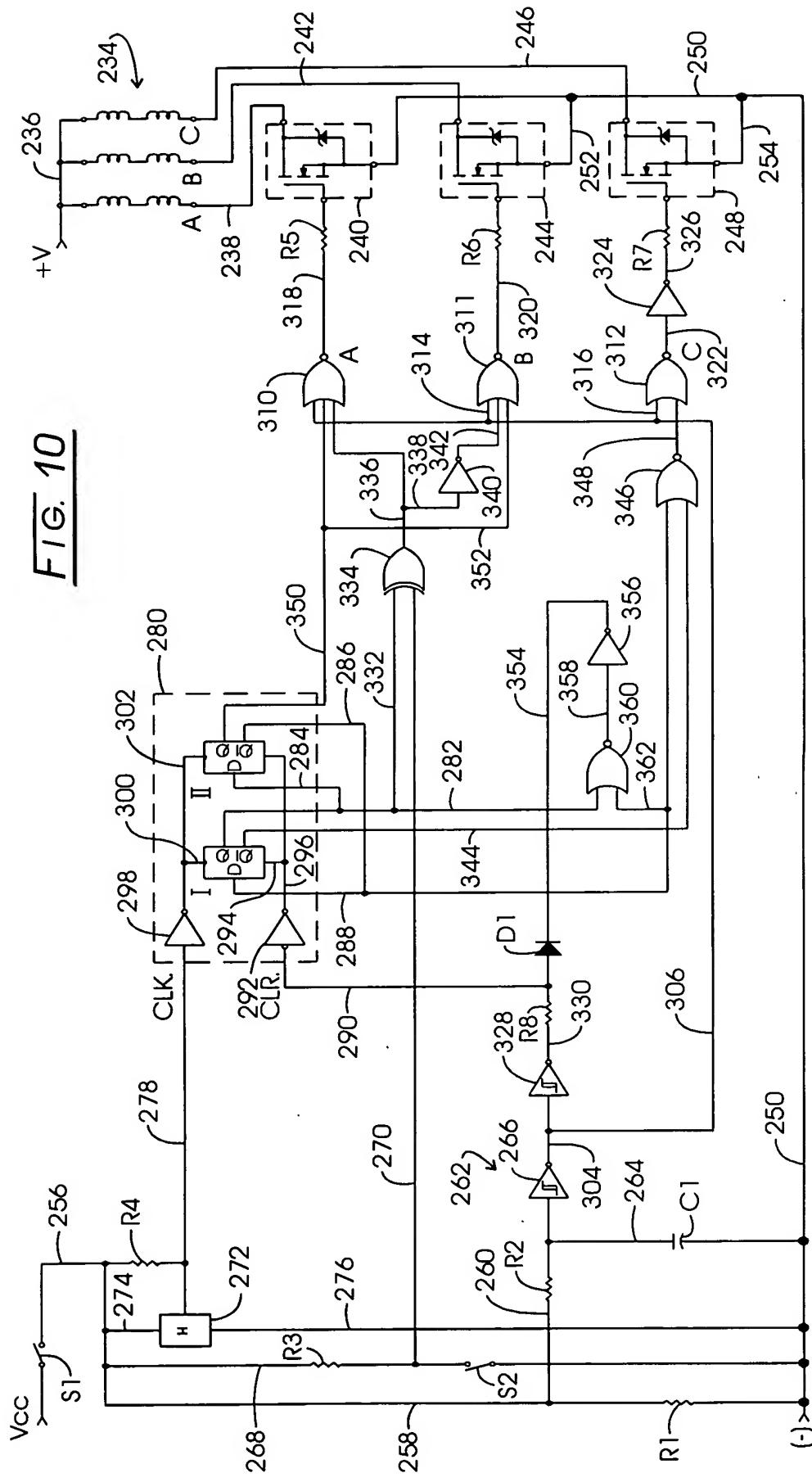


FIG. 7



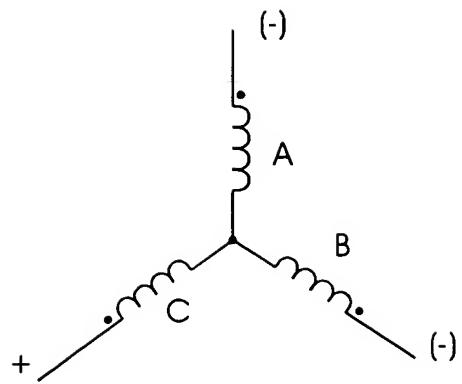


FIG. 12

STEP	TOP	<u>CW</u>	
		A	B
0	C	A	B
1	A	B	
2	A	C	
3	B	C	
4	B	A	
5	C	A	
6	C	B	

STEP	TOP	<u>CCW</u>	
		A	B
0	C	A	B
1	B	A	
2	B	C	
3	A	C	
4	A	B	
5	C	B	
6	C	A	

FIG. 13

FIG. 14

ALIGNING STEP		STEP						
		0	1	2	3	4	5	6
I	Q	0	0	1	1	1	0	0
	\bar{Q}	1	1	0	0	0	1	1
II	Q	0	0	0	1	1	1	0
	\bar{Q}	1	1	1	0	0	0	1
III	Q	0	0	0	0	1	1	1
	\bar{Q}	1	1	1	1	0	0	0

FIG. 16

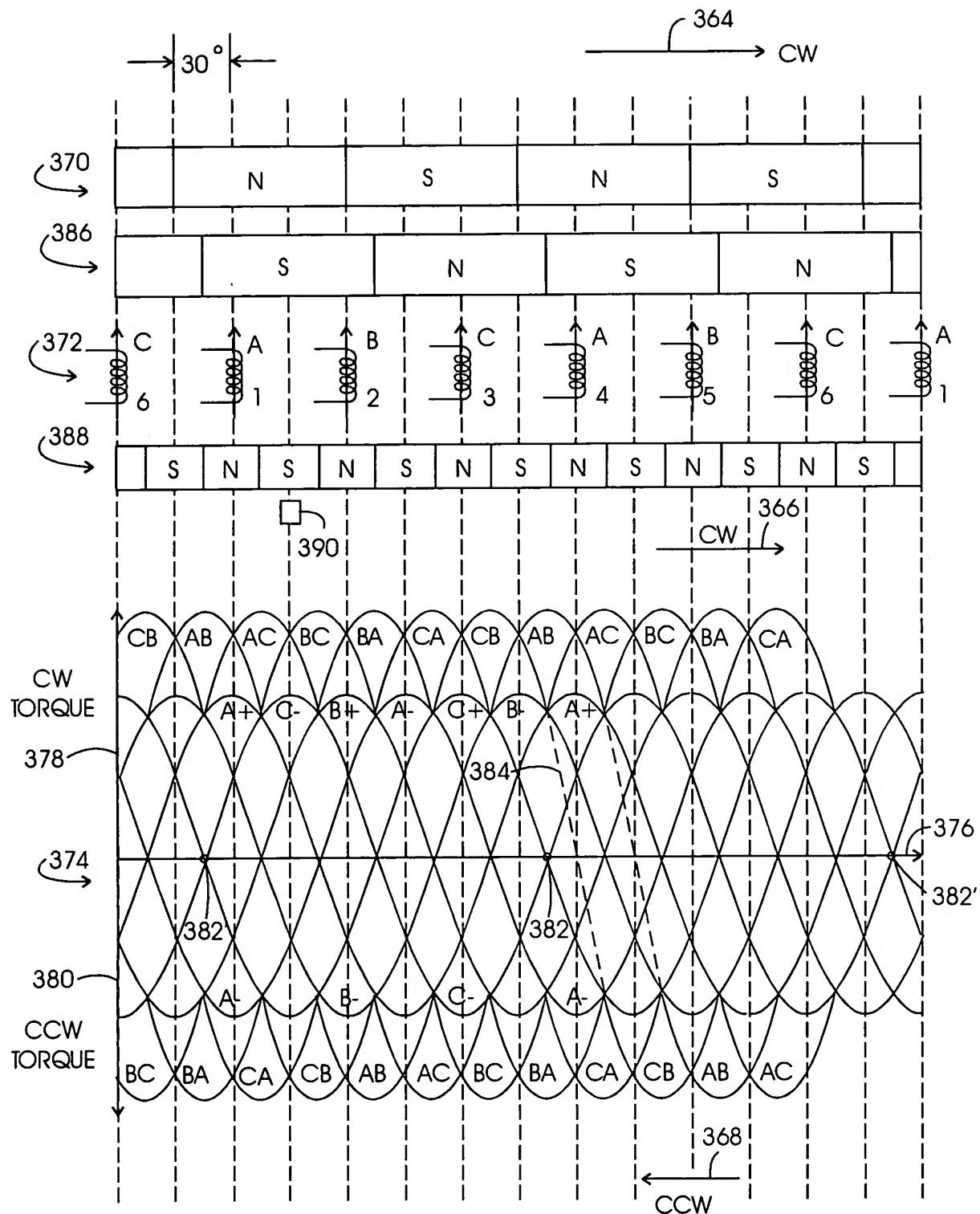


FIG. 15

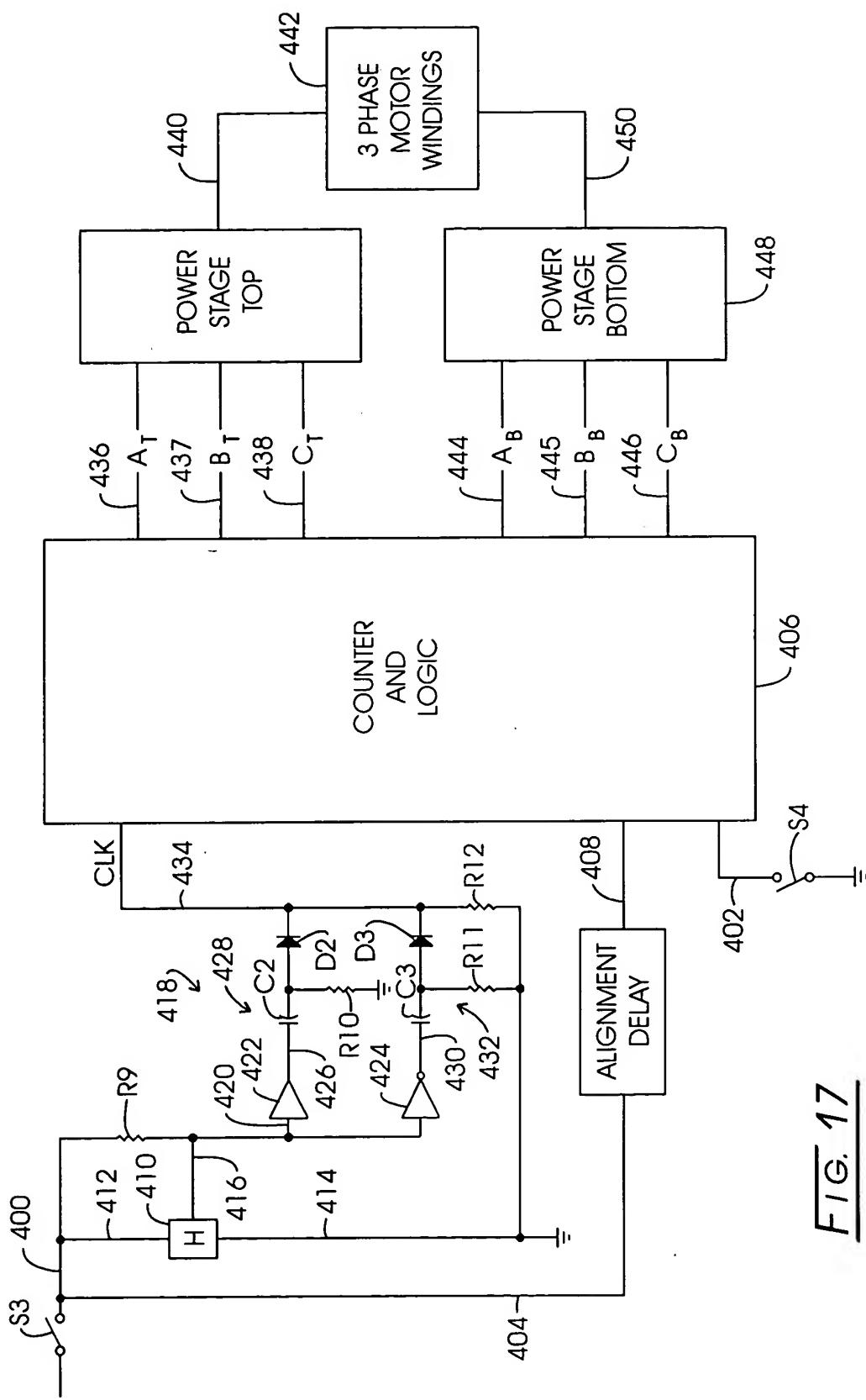


FIG. 17

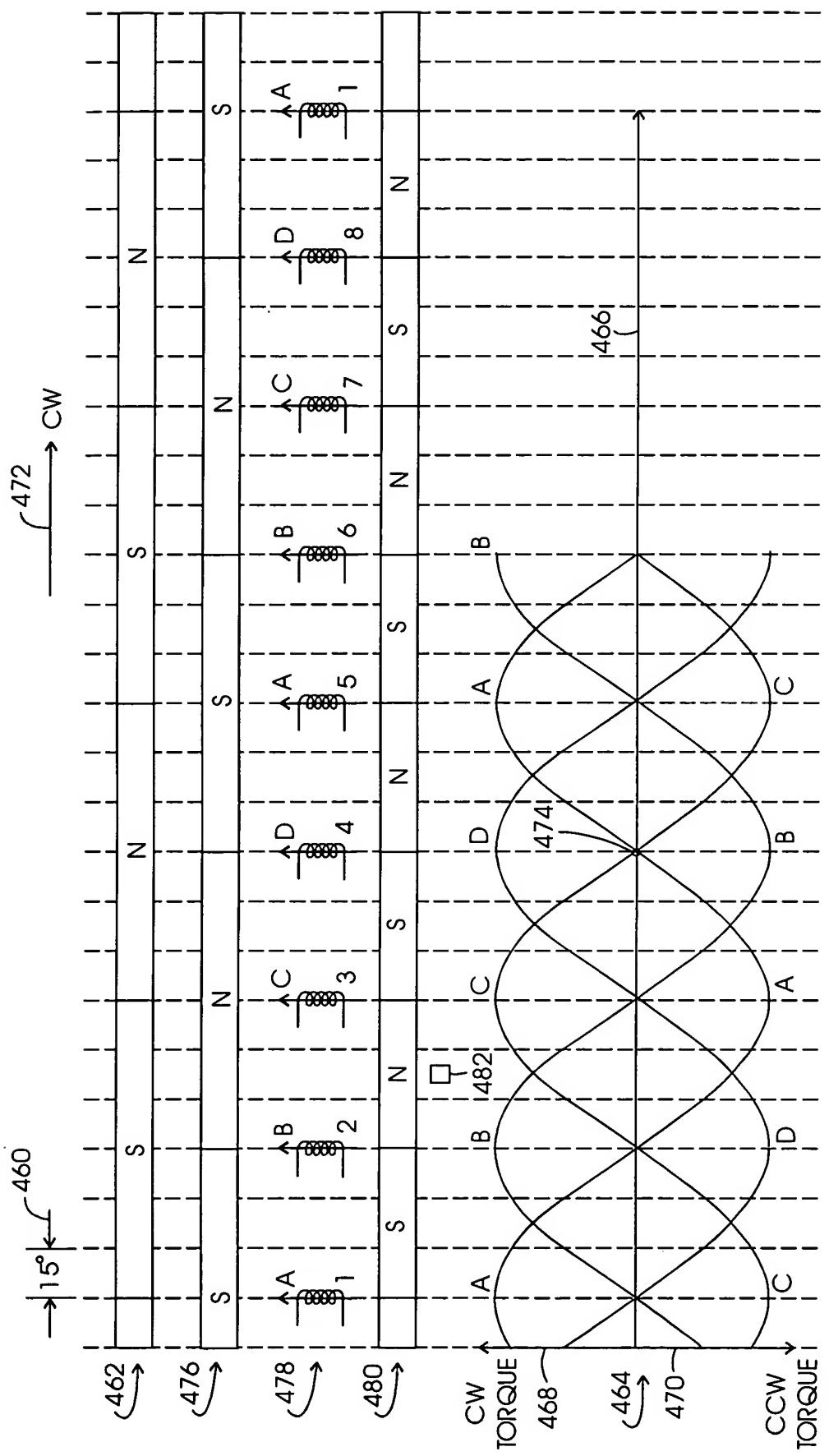


FIG. 18

<u>CW</u>	
STEP	PHASE ON
0	C
1	D
2	A
3	B
4	C
5/1	D

FIG. 19

<u>CCW</u>	
STEP	PHASE ON
0	C
1	B
2	A
3	D
4	C
5/1	B

FIG. 20

I						
STEP	0	1	2	3	4	1
Q	0	0	1	1	0	0
\bar{Q}	1	1	0	0	1	1
---	-	-	-	-	-	-
D	1	1	1	0	0	1

FIG. 22

II						
STEP	0	1	2	3	4	1
Q	0	0	0	1	1	0
\bar{Q}	1	1	1	0	0	1
---	-	-	-	-	-	-
D	0	0	1	1	0	0

FIG. 23

<u>CW</u>	
STEP	PHASE ON
0	C
1	A
2	B
3	C
4 \Rightarrow 1	A

FIG. 25

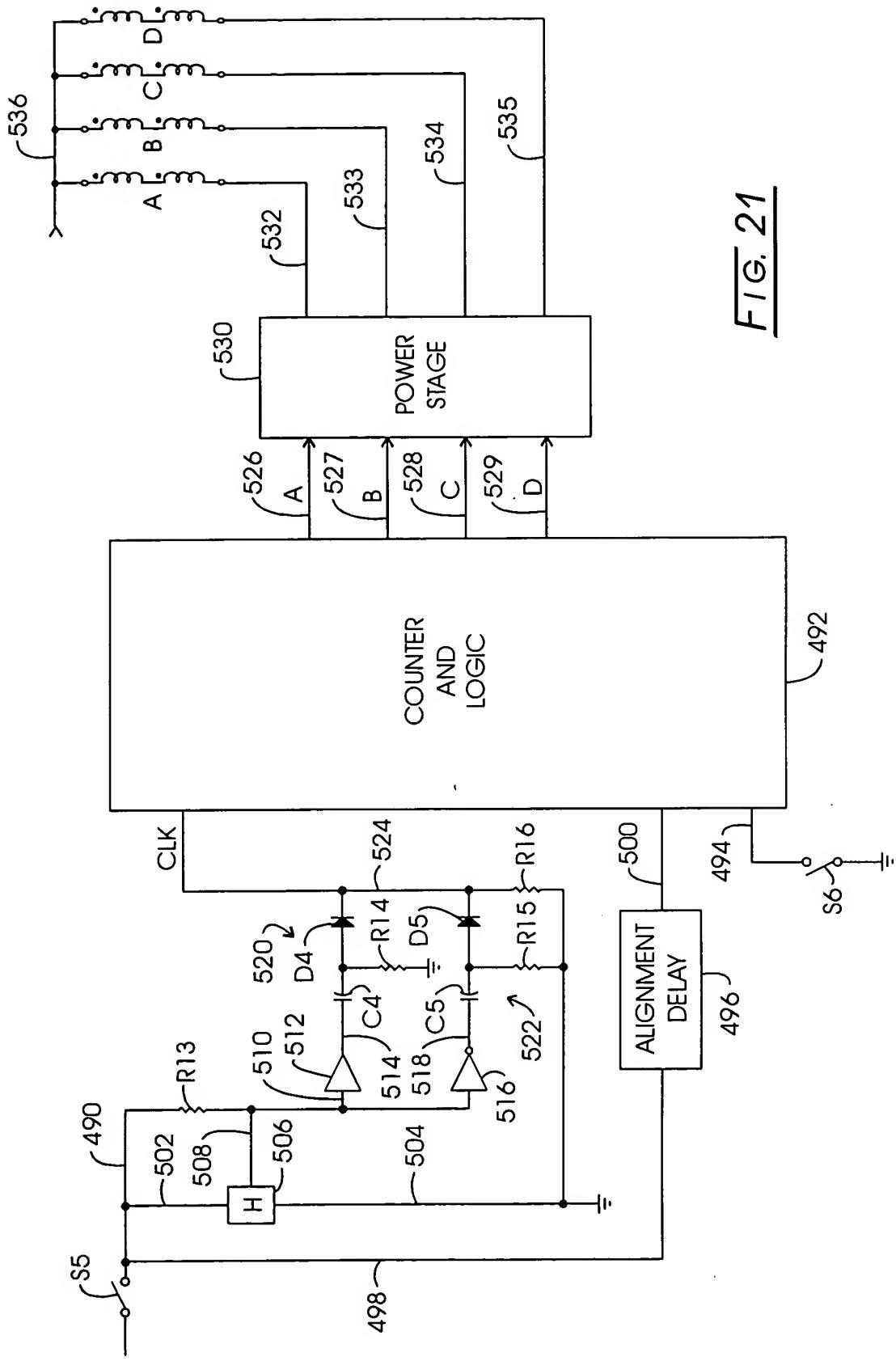


FIG. 21

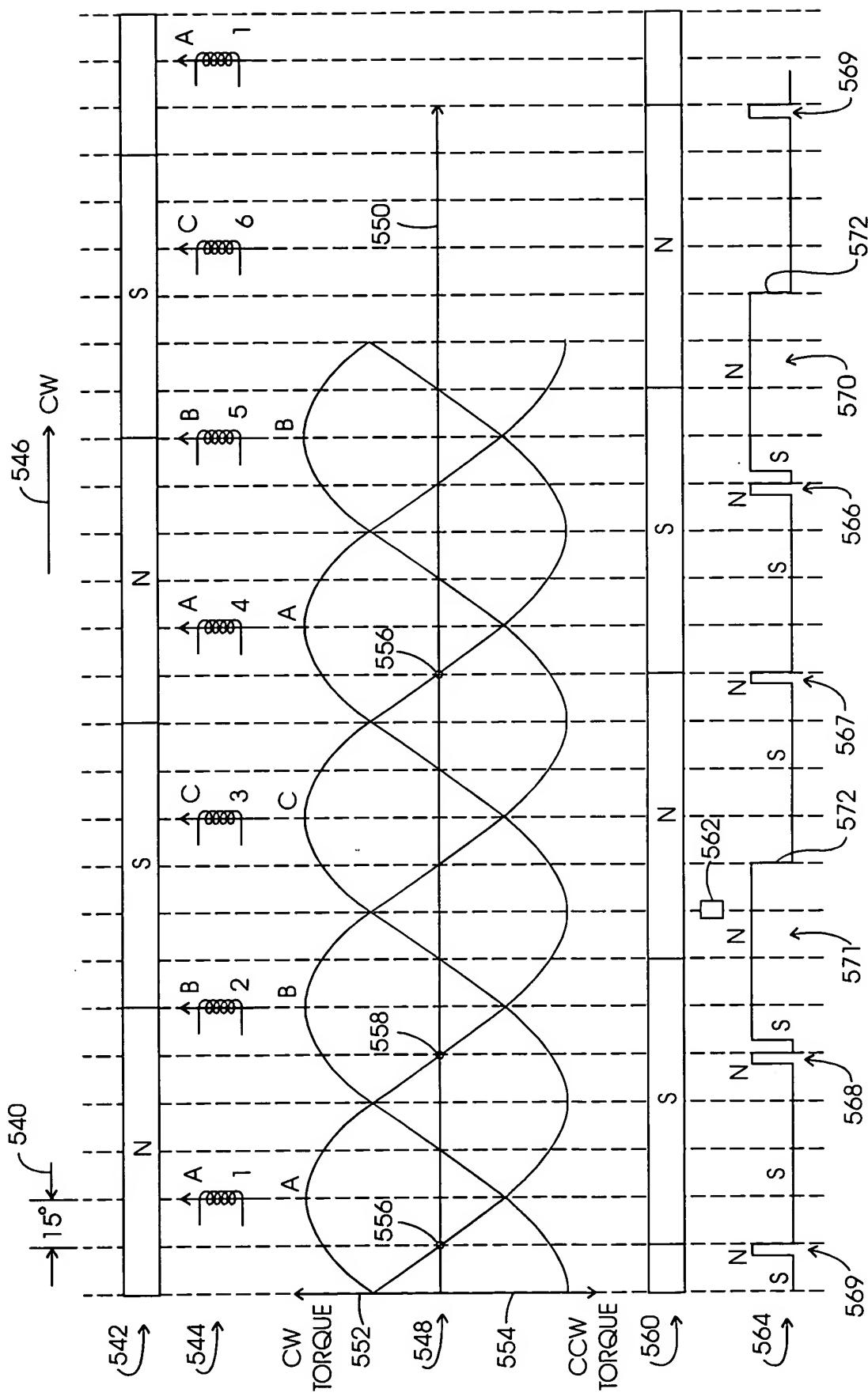


FIG. 24

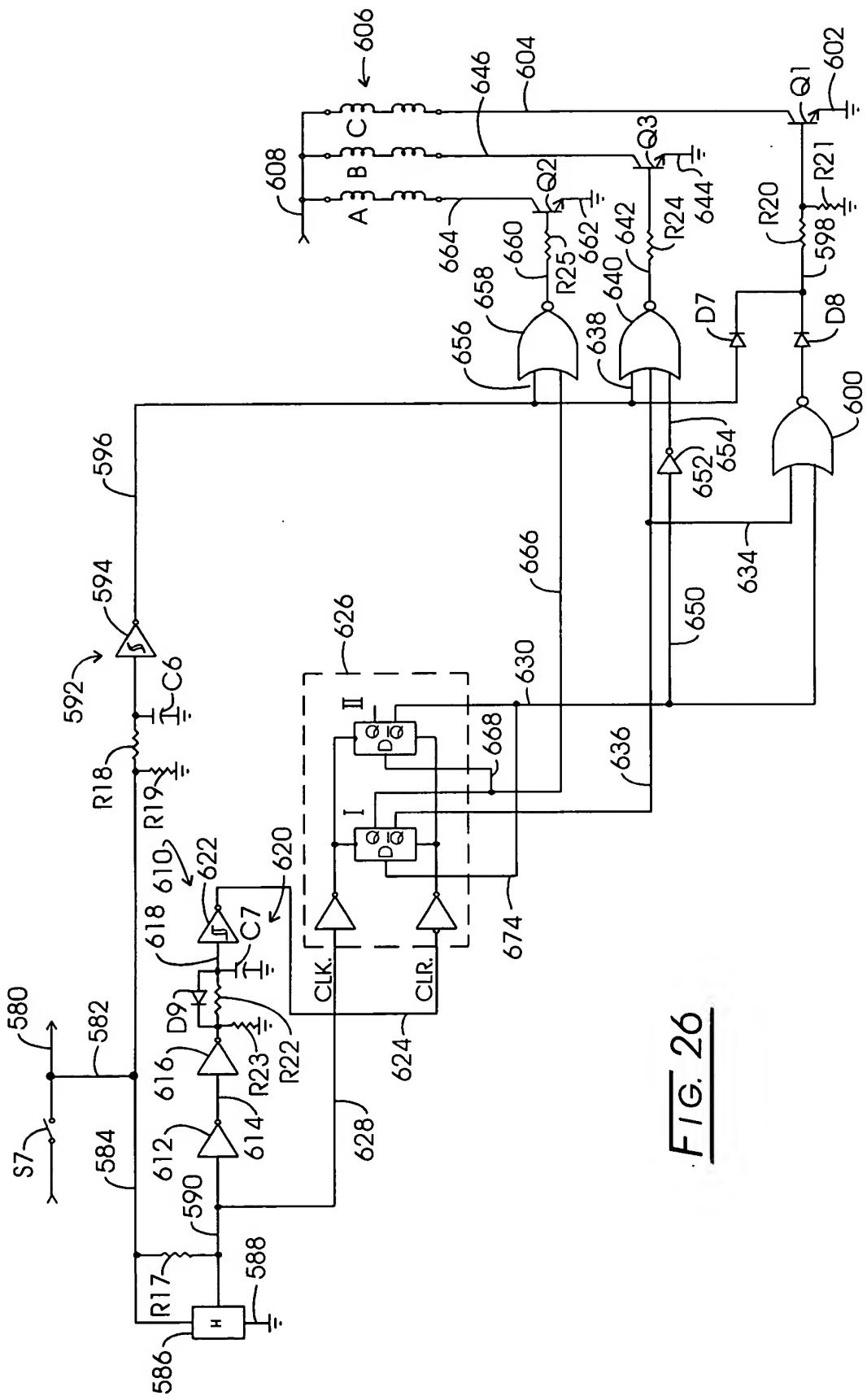


FIG. 26

STEP	ALIGNMENT					CLR.	
	0	1	2	3	4→1	2	
I	Q	0	0	1	1	0→0	1
	Q̄	1	1	0	0	1→1	0
II	Q	0	0	0	1	1→0	0
	Q̄	1	1	1	0	0→1	1
MOTOR PHASE	C	A	B	C	A	B	

FIG. 27

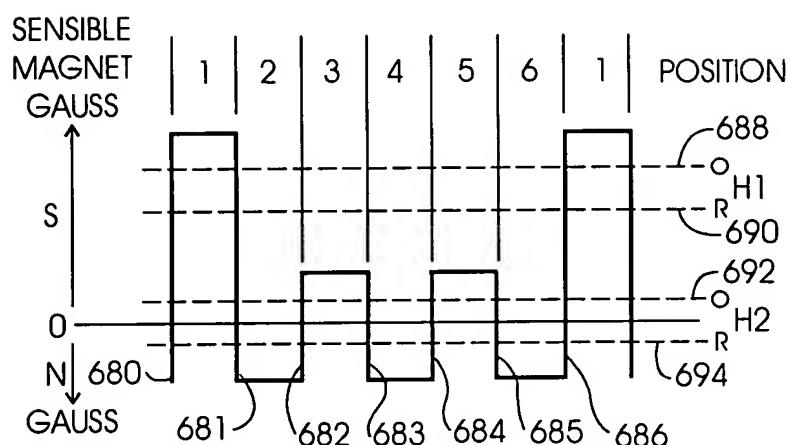


FIG. 28

POSITION	1	2	3	4	5	6	1
H1	0	1	1	1	1	1	0
H2	0	1	0	1	0	1	0

FIG. 28A

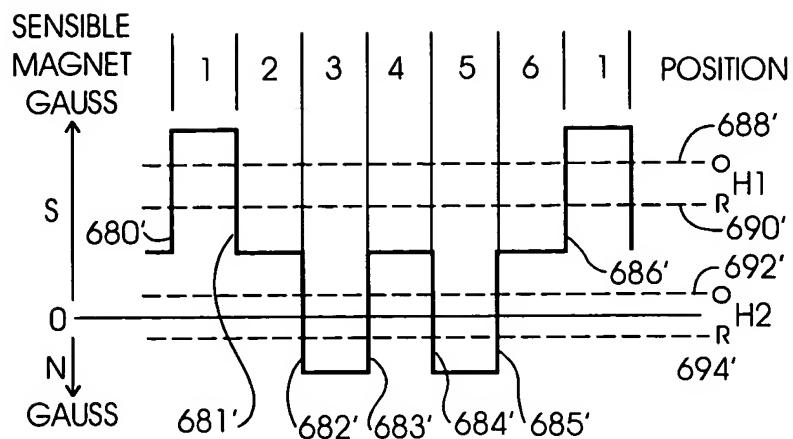


FIG. 28B

POSITION	1	2	3	4	5	6	1
H1	0	1	1	1	1	1	0
H2	0	0	1	0	1	0	0

FIG. 28C

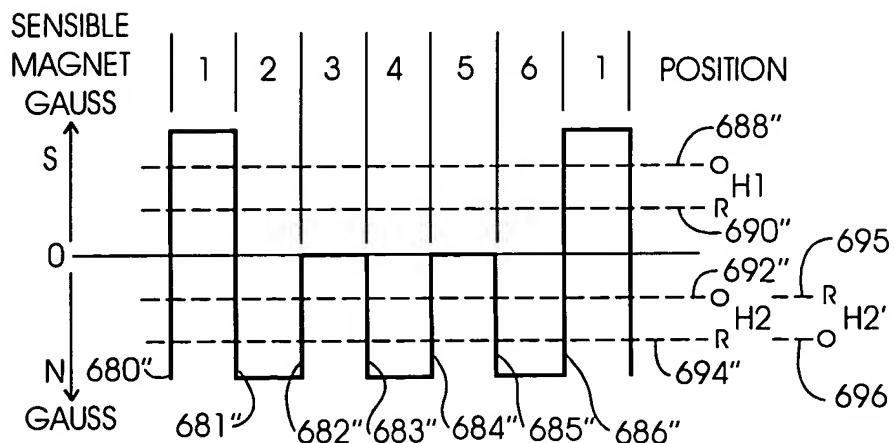


FIG. 28D

POSITION	1	2	3	4	5	6	1
H1	0	1	1	1	1	1	0
H2	0	1	0	1	0	1	0
H2'	1	0	1	0	1	0	1

FIG. 28E

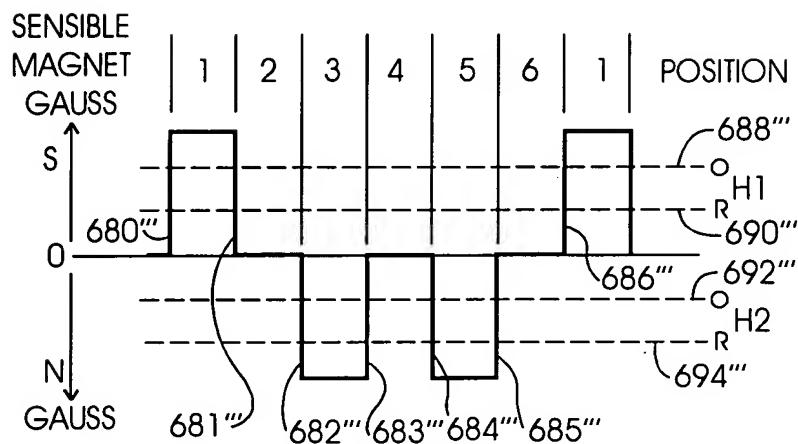


FIG. 28F

POSITION	1	2	3	4	5	6	1
H1	0	1	1	1	1	1	0
H2	0	0	1	0	1	0	0

FIG. 28G

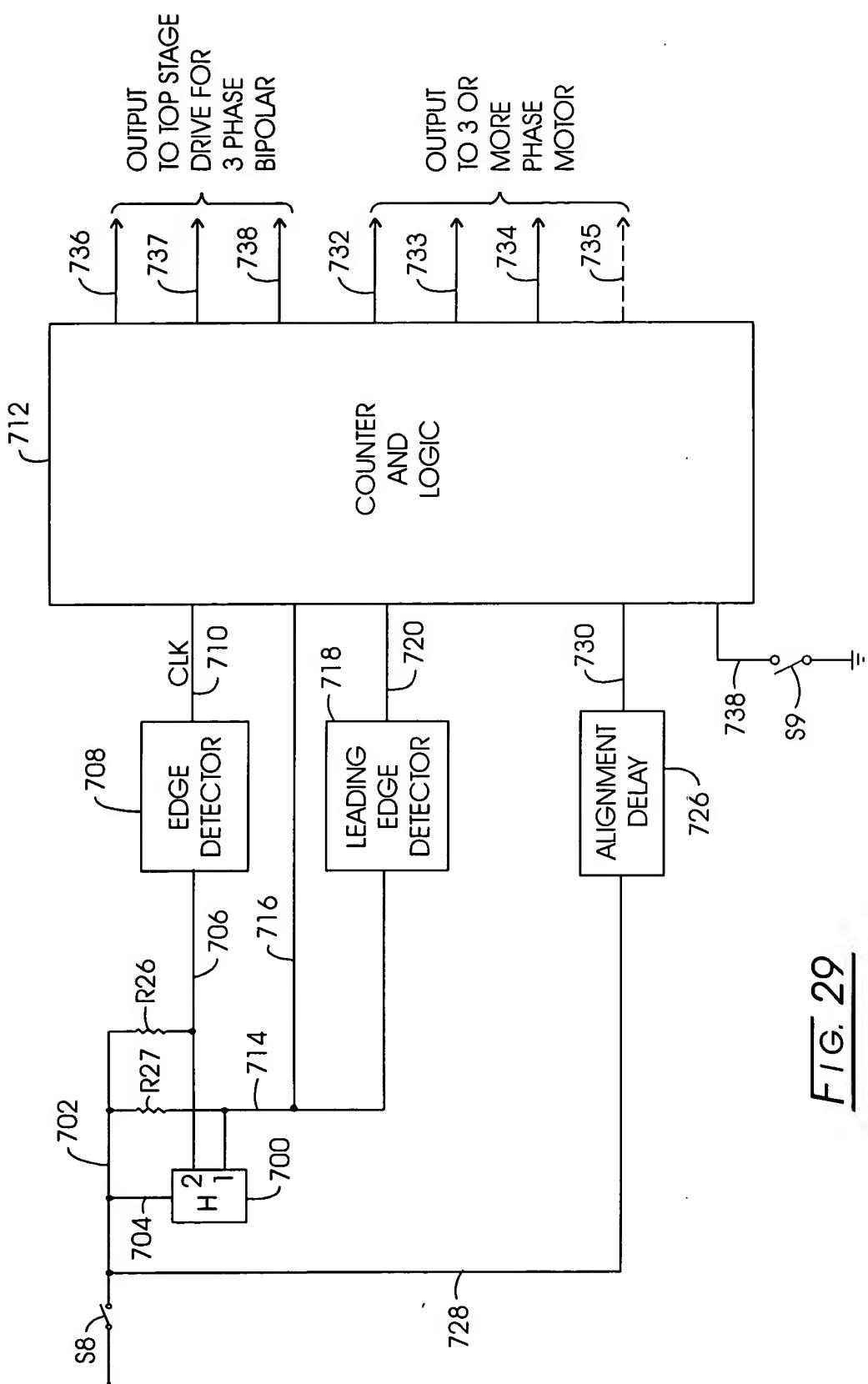


FIG. 29

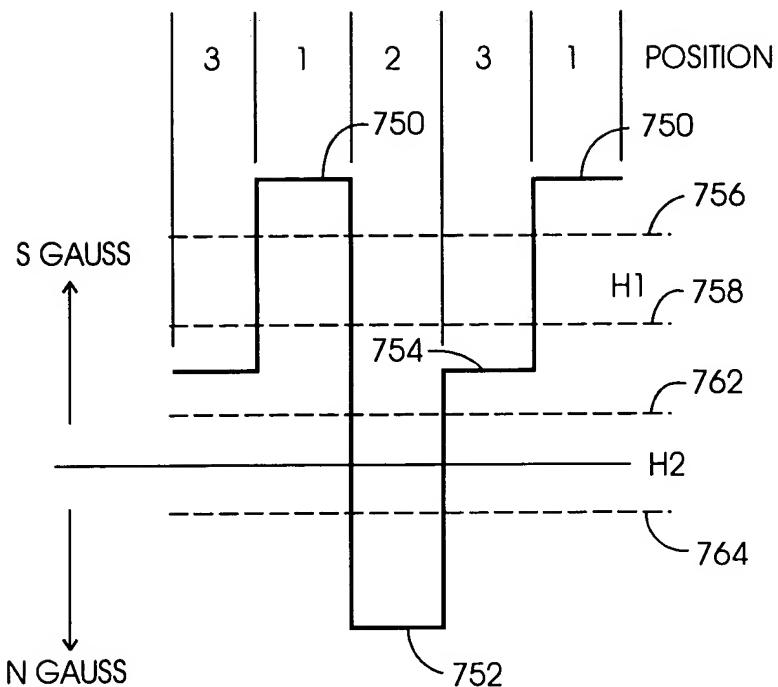


FIG. 30A

POSITION	1	2	3
H_1	0	1	1
H_2	0	1	0
PHASE	A	B	C

FIG. 30B

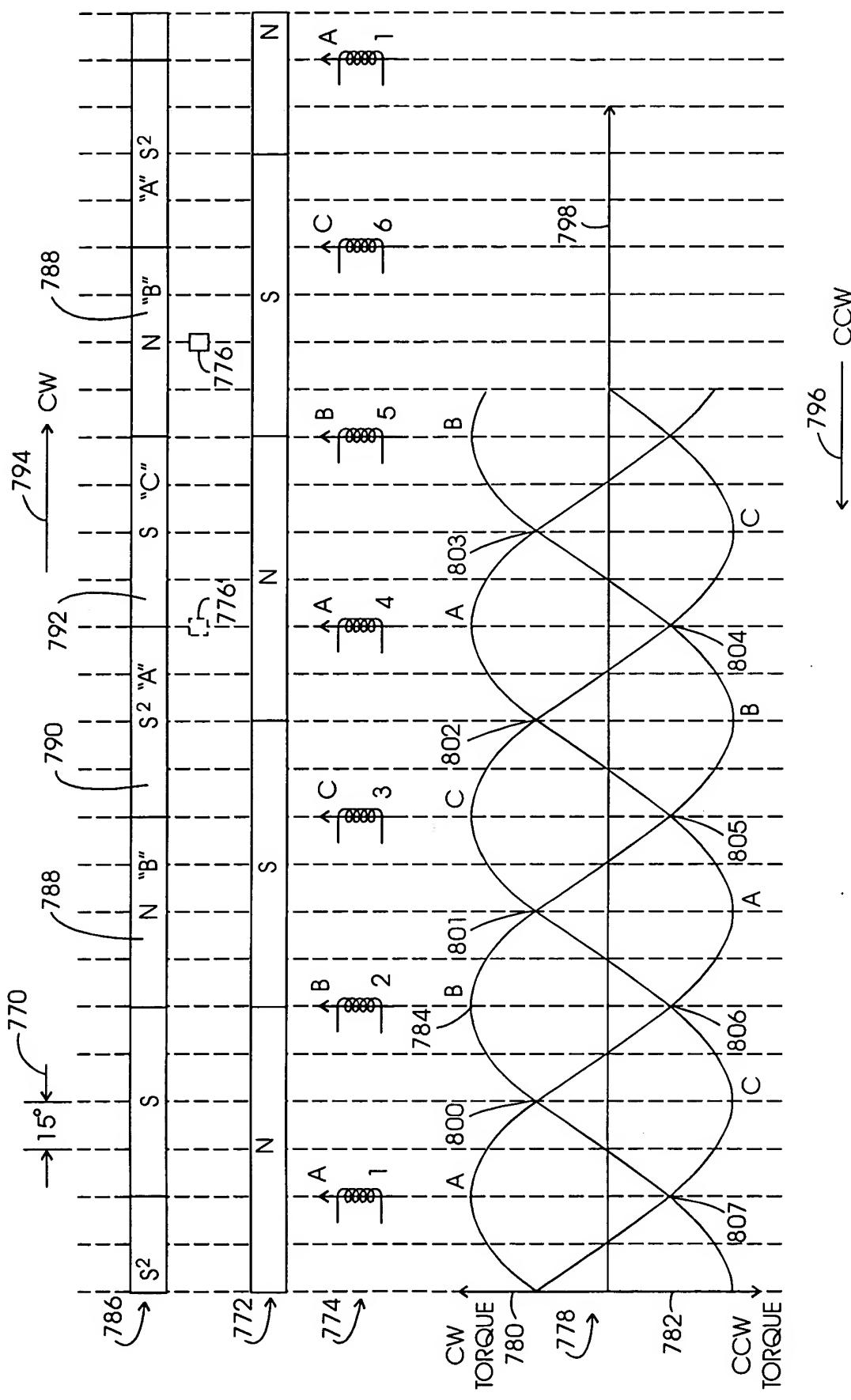


FIG. 31

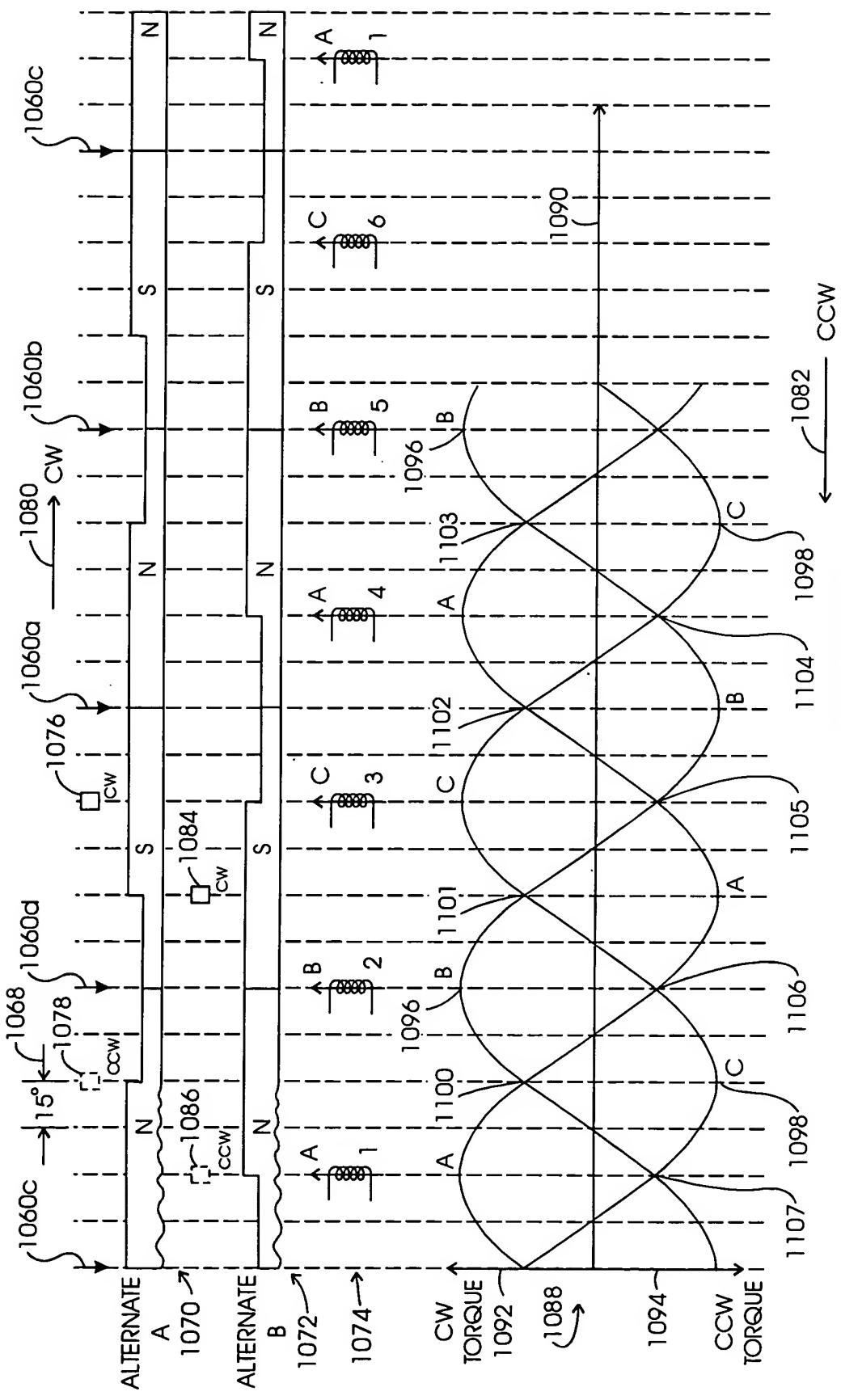


FIG. 31A

FIG. 31B

ALTERNATE B
 $\frac{\text{CW}}{\text{S} - \text{B}}$ $\frac{\text{CCW}}{\text{N} - \text{C}}$
 $\frac{\text{CW}}{\text{N} - \text{C}}$ $\frac{\text{CCW}}{\text{S} - \text{B}}$
 $\frac{\text{O} - \text{A}}{\text{O} - \text{A}}$ $\frac{\text{N} - \text{C}}{\text{N} - \text{C}}$

$\frac{\text{CW}}{\text{S} - \text{B}}$ $\frac{\text{CCW}}{\text{N} - \text{C}}$
 $\frac{\text{CW}}{\text{O} - \text{A}}$ $\frac{\text{CCW}}{\text{N} - \text{C}}$

ALTERNATE A
 $\frac{\text{CW}}{\text{S} - \text{B}}$ $\frac{\text{CCW}}{\text{O} - \text{C}}$
 $\frac{\text{CW}}{\text{O} - \text{C}}$ $\frac{\text{CCW}}{\text{S} - \text{B}}$
 $\frac{\text{CW}}{\text{N} - \text{A}}$ $\frac{\text{CCW}}{\text{O} - \text{C}}$
 $\frac{\text{CW}}{\text{S} - \text{B}}$ $\frac{\text{CCW}}{\text{N} - \text{C}}$

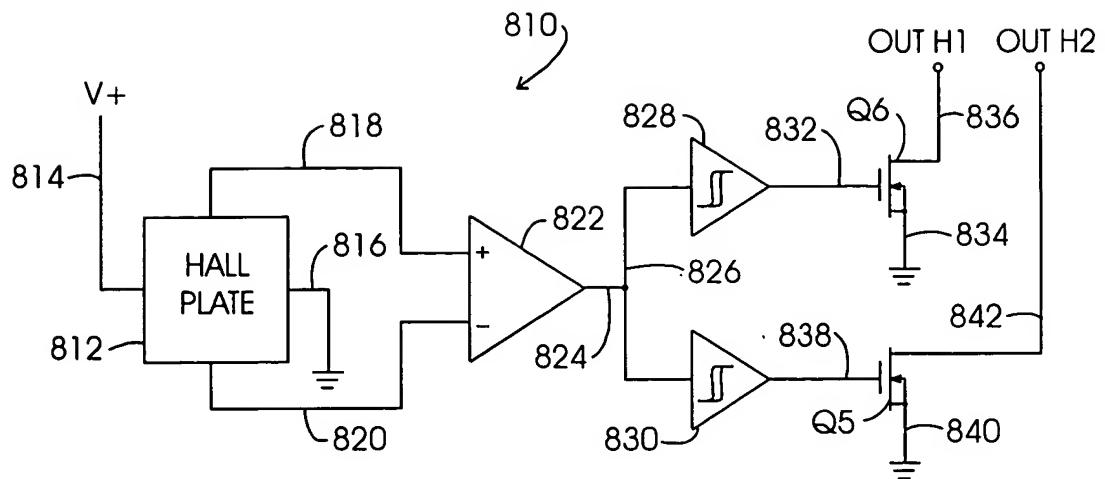


FIG. 32

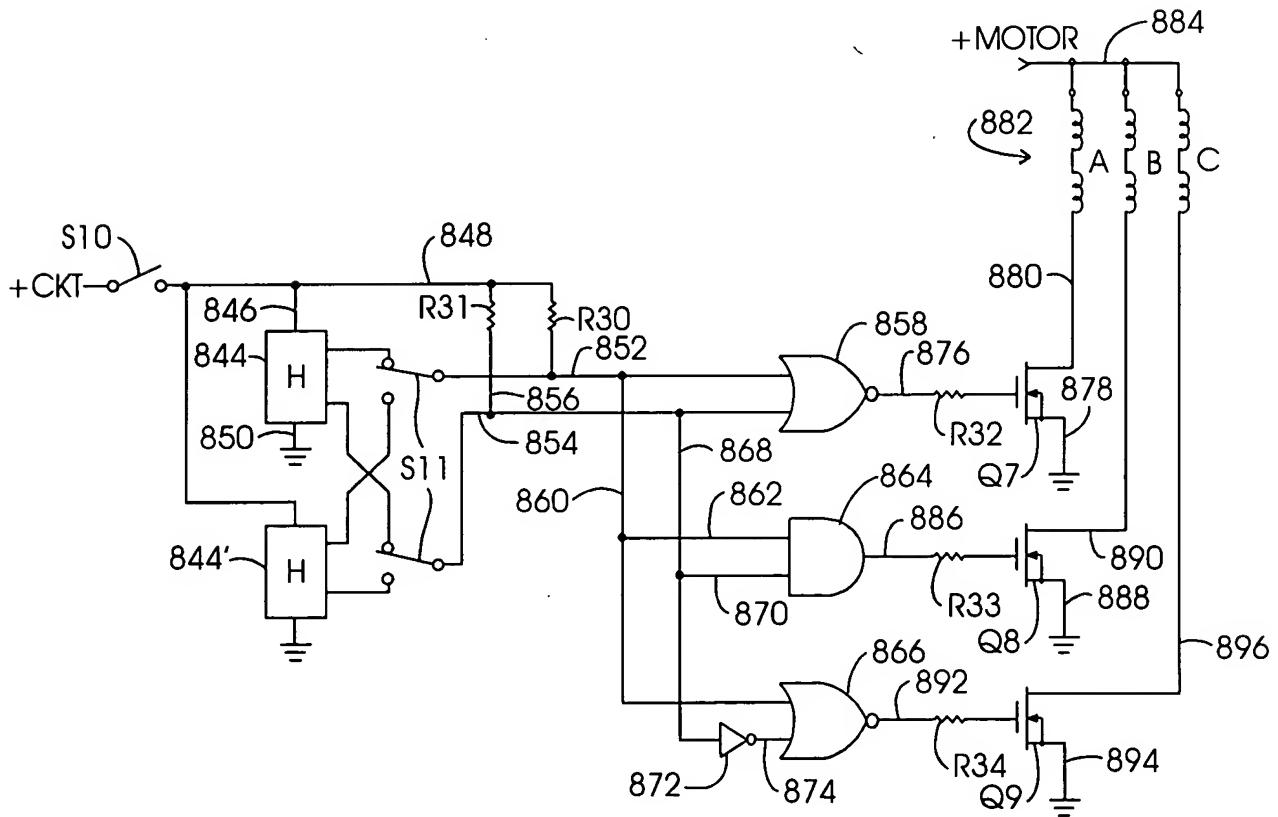
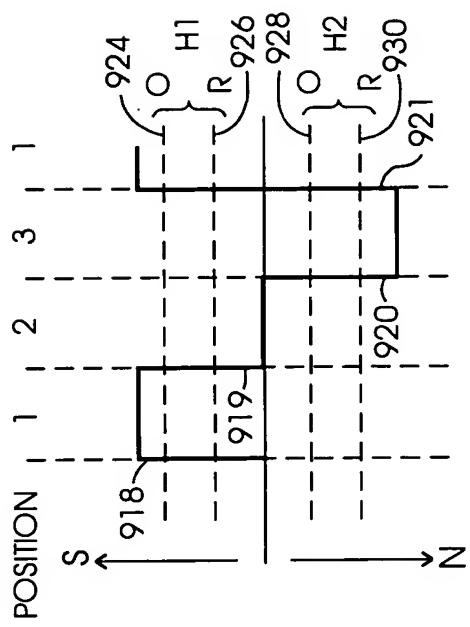
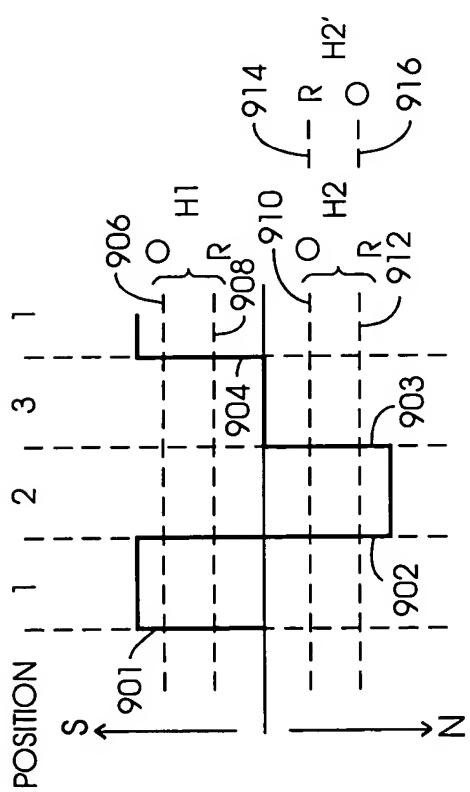


FIG. 33



POSITION	1	2	3	1
H1	0	1	1	0
H2	0	1	0	1
PHASE	A	B	C	A

FIG. 34

POSITION	1	2	3	1
H1	0	1	1	0
H2	0	0	1	1
PHASE	A	B	C	A

FIG. 36

FIG. 35

FIG. 37

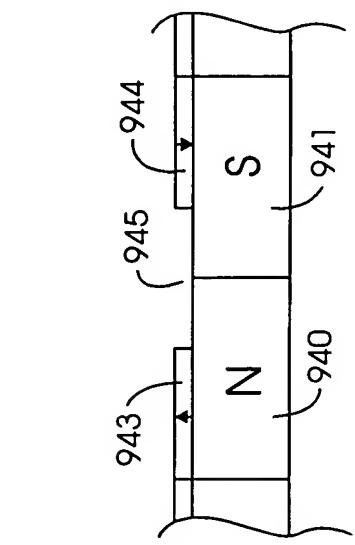


FIG. 38A

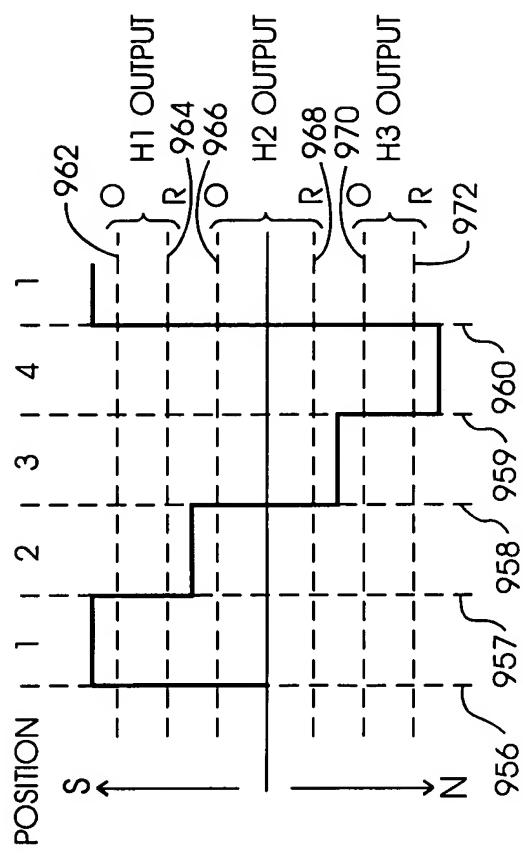


FIG. 39

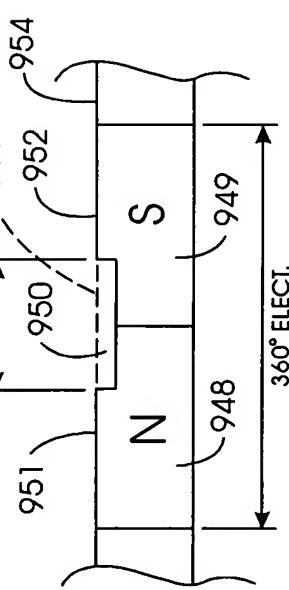


FIG. 38B

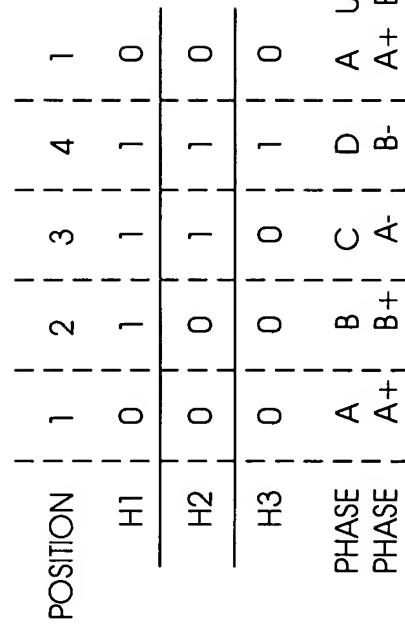


FIG. 40

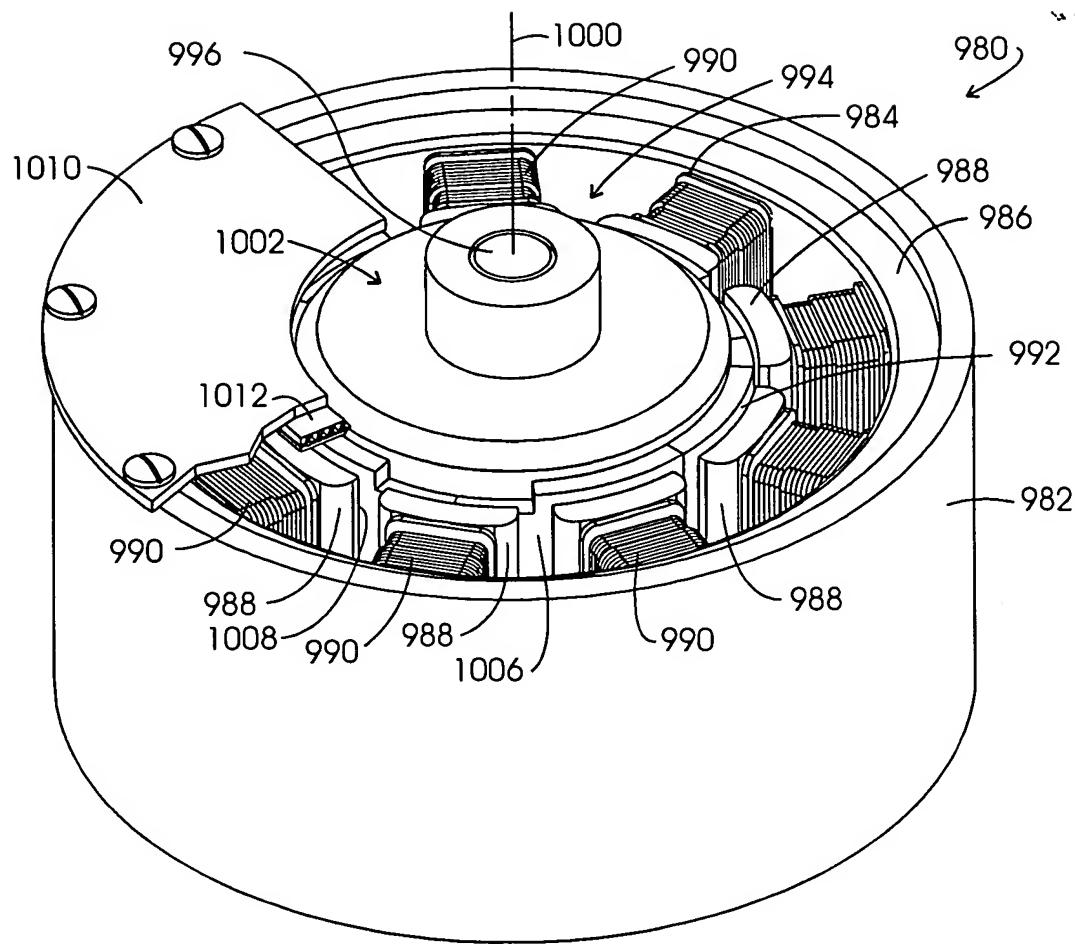


FIG. 41

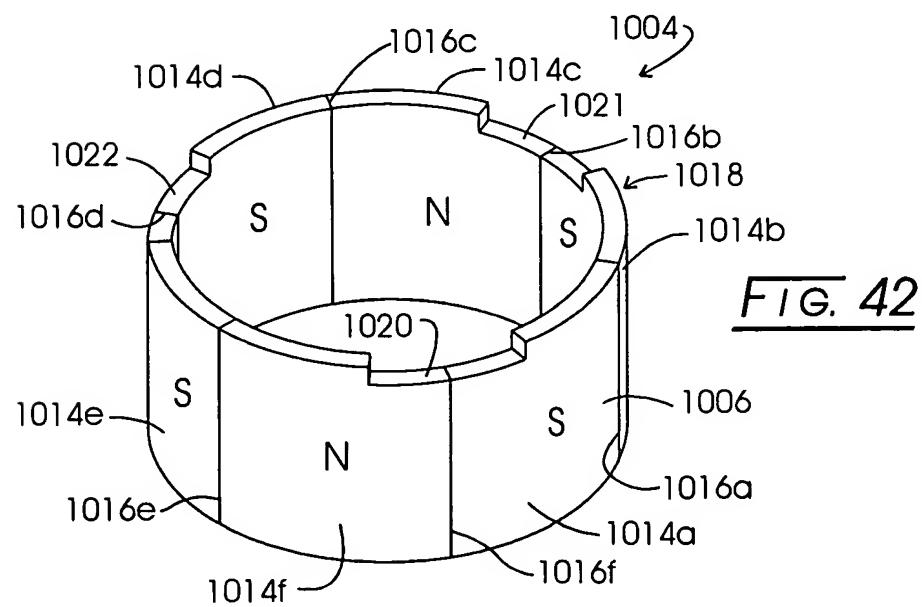


FIG. 42

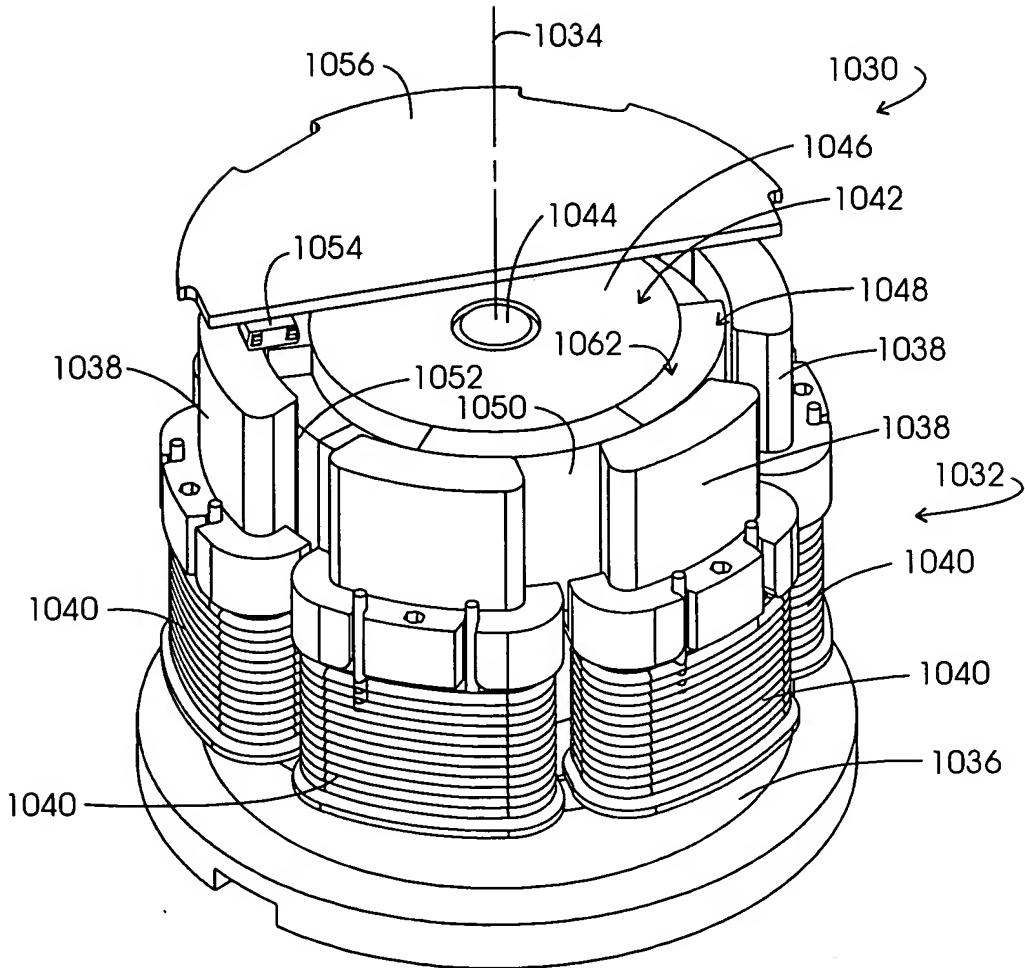


FIG. 43

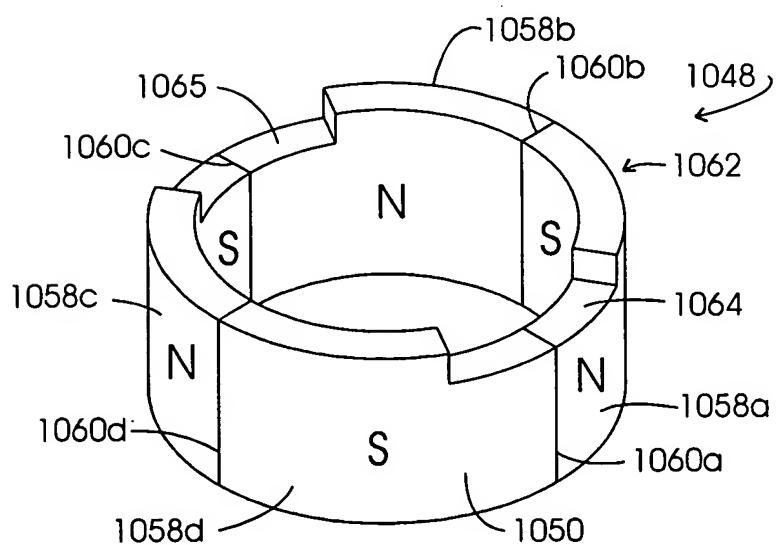


FIG. 44

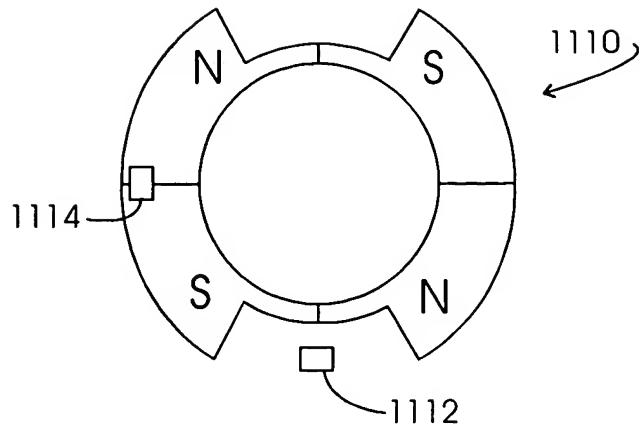


FIG. 45

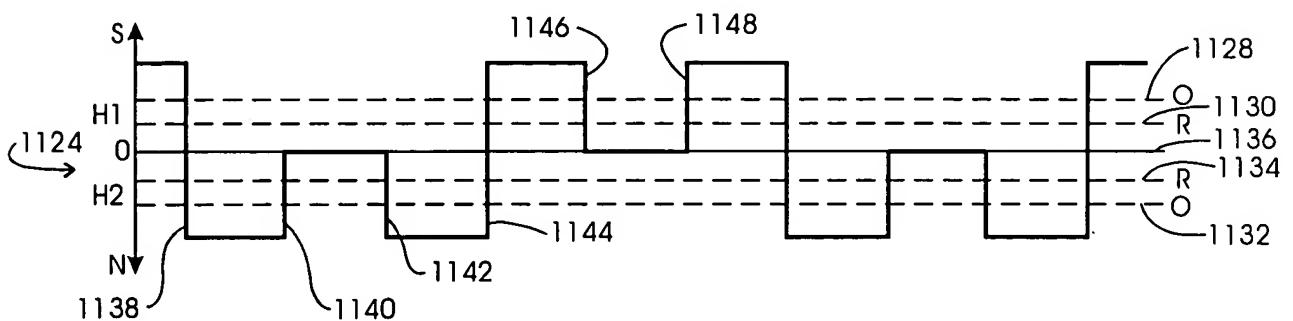
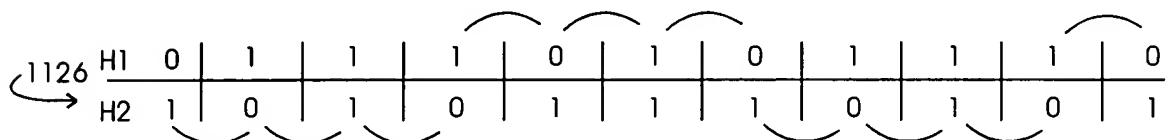
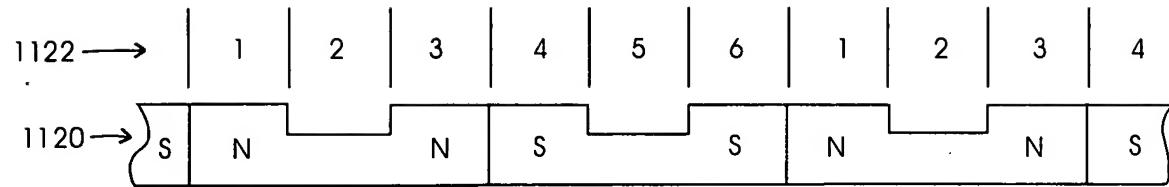


FIG. 46

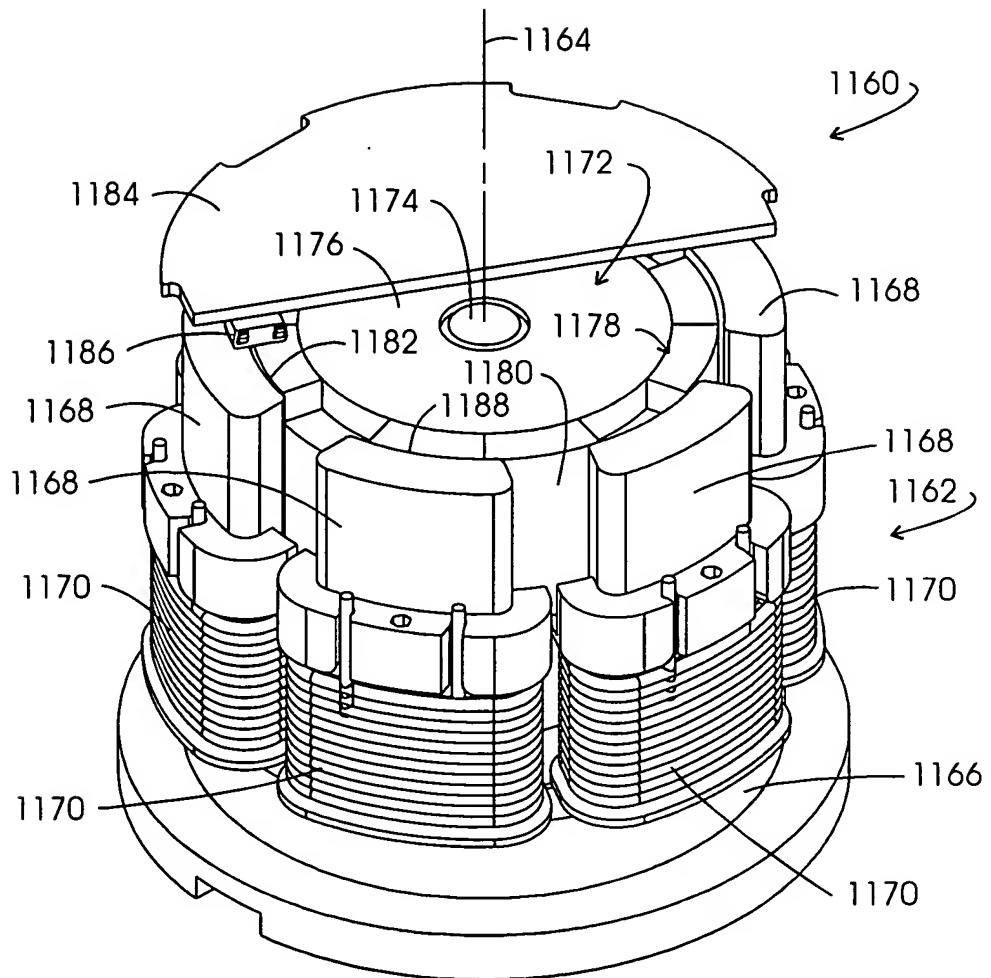


FIG. 47

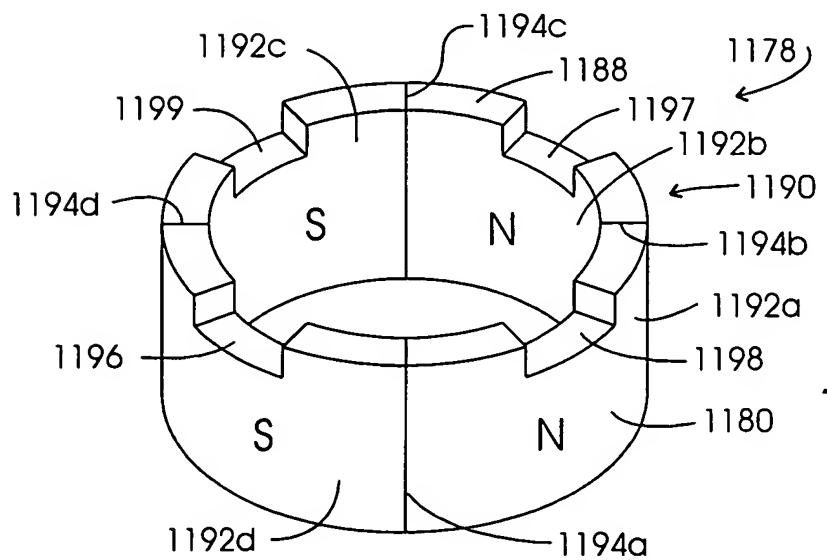


FIG. 48